Server Monitor

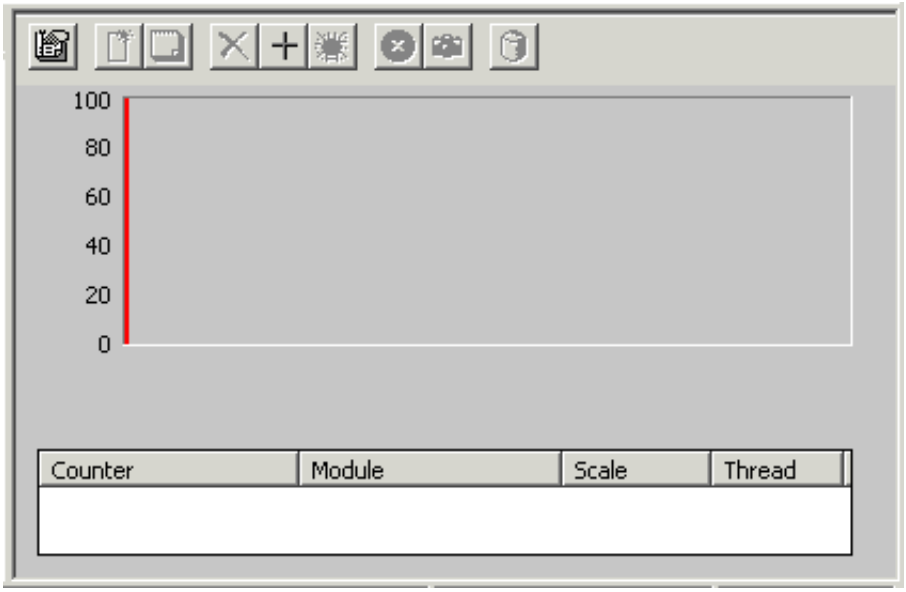
In the tree of the Server Management snap-in, select the "Server Monitor" node to display the corresponding pane.

This chapter covers the following topics:

- Elements of the Server Monitor Pane
- Defining the Server Monitor Properties
- Adding Counters
- Overview of Performance Modules and Counters
- Deleting a Counter
- Highlighting a Curve
- Freezing the Graph
- Updating the Graph Manually
- Clearing the Graph
- Deleting All Counters and Curves

Elements of the Server Monitor Pane

It is only possible to work in the Server Monitor pane when the Entire Screen Builder Server has been started. When it has been stopped, the corresponding message is shown.



The following topics describe the elements of the Server Monitor pane:

- Toolbar
- Curves for All Defined Counters
- Defined Counters

Toolbar

The following toolbar buttons are available:

 Define properties

 Delete all counters and curves

 Clear graph

 Delete counter

 Add counters

 Highlight curve

 Freeze graph

 Update graph manually

 Currently not available.

Curves for All Defined Counters

Curves appear after you have added the counters. A curve is shown for each defined counter. It is updated with the frequency that has been defined in the properties. This is indicated by the vertical red timebar. In the properties, you can also define the minimum and maximum numbers for the active connections that are to be shown on the vertical scale.

Defined Counters

The defined counters are shown at the bottom of the pane. You can select one of the counters and then highlight the corresponding curve.

Defining the Server Monitor Properties

The property values that you define are only valid for the current session. They will be lost when you exit the Server Management snap-in.

To define the server monitor properties

1. From the context menu, choose **Properties**.

   Or:
   Choose the following toolbar button:

   A dialog box appears in which you can define the server monitor properties.

2. Specify all required information on the different pages of the dialog box.

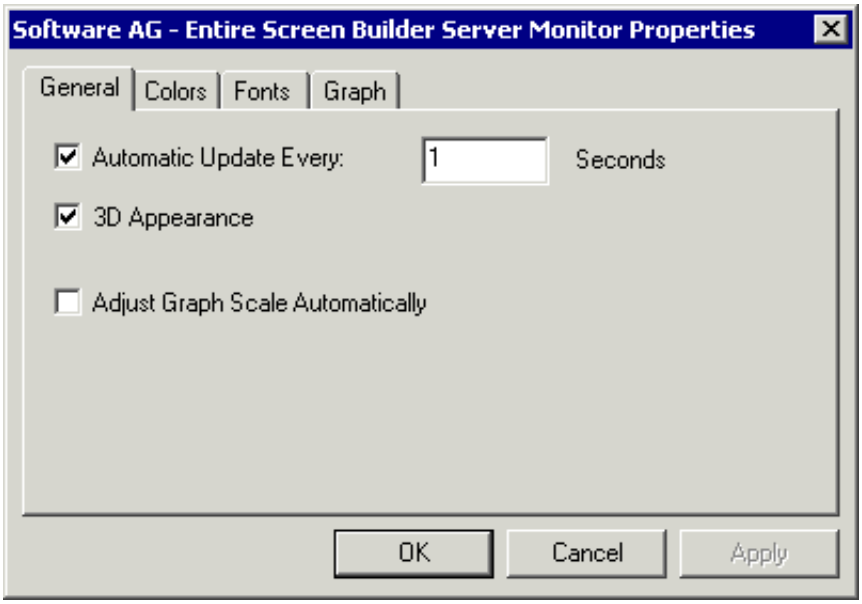
   The following pages are described below:

   - General
   - Graph

   The pages Fonts and Colors can be used, for example, to define another background color for the graph control or another font for the numbers on the vertical scale. This is standard Windows functionality and is therefore not explained in this documentation.

3. Choose the **OK** button.

General



Automatic Update Every *n* Seconds

When this check box is selected, you can specify how often the graph is to be updated.

When this check box is not selected, the graph is frozen. See also: *Freezing the Graph* and *Updating the Graph Manually*

3D Appearance

When this check box is selected, the graph control is shown in 3D.

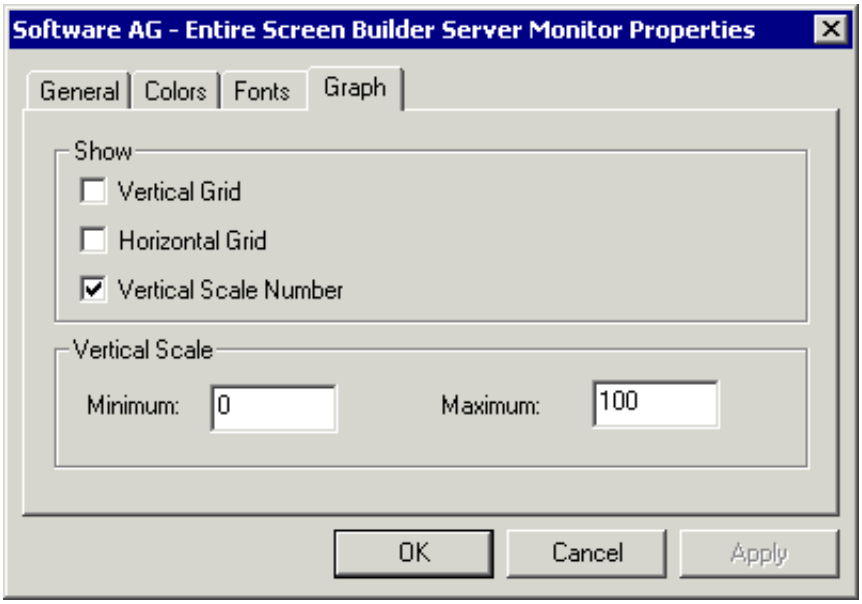
Adjust Graph Scale Automatically

When this check box is selected, the graph scale is adjusted automatically in the following cases:

- when a curve exceeds the maximum number that has been defined for the vertical scale, or
- when the curves permanently stay 99 percent below the maximum number that has been defined for the vertical scale.

Example: the minimum number defined for the vertical scale is 0 and the maximum number is 100. If a curve now assumes the value 130 in this 1.0 scale, the scale changes to 0.1 so that 13 is displayed as the value (130 is the actual value). If the values of the curves stay between 0 and 9 permanently after the automatic adjustment, the scale will be changed back to 1.0.

Graph



Vertical Grid

When this check box is selected, a vertical grid is shown in the graph control.

Horizontal Grid

When this check box is selected, a horizontal grid is shown in the graph control.

Vertical Scale Number

When this check box is selected, the minimum and maximum numbers that have been defined in this dialog are shown on the vertical scale.

Vertical Scale

You can define the numbers to be shown on the vertical scale. Specify the required numbers in the **Minimum** and **Maximum** text boxes.

Adding Counters

You have to add counters for the Entire Screen Builder modules that are to be monitored. When a counter has been added, the corresponding curve is drawn.

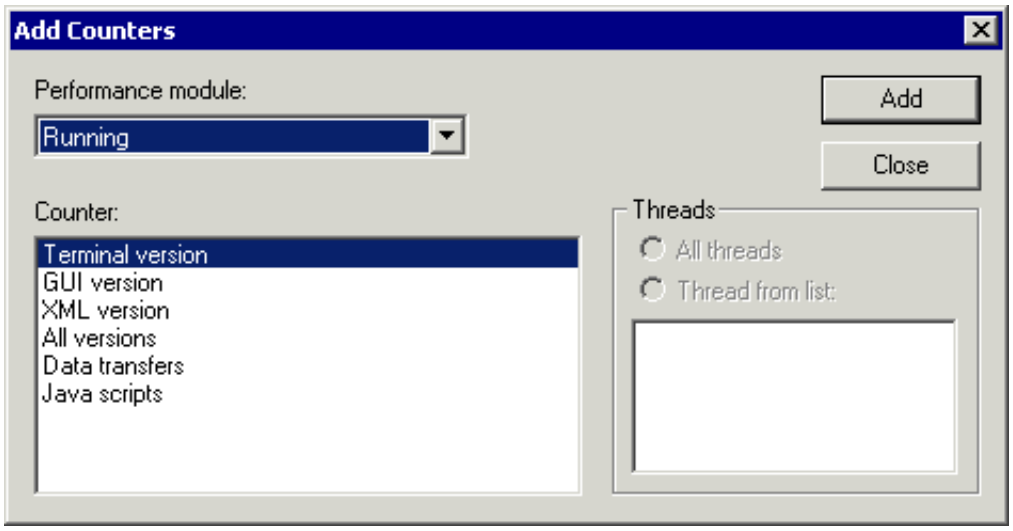
To add counters

1. From the context menu, choose **Add Counters**.

   Or:
   Choose the following toolbar button:

   The Add Counters dialog box appears.



2. Select the desired module from the **Performance module** drop-down list box.
3. Select the desired counter from the **Counter** drop-down list box.

   See *Overview of Performance Modules and Counters* for further information.
4. In the Threads group box, select one of the following option buttons (not available for the performance module **Running**):

   - **All threads** if you want to monitor all treads, or
   - **Thread from list** if you want to monitor a specific tread; in this case, you have to select the desired thread in the list box. The numbers in brackets are the IDs of the threads.
5. Choose the **Add** button.
6. Repeat the above steps for each counter that you want to add.

7. Choose the **Close** button.

   The defined counters are shown at the bottom of the pane and monitoring is started. A curve is drawn for each defined counter. The timebar (the vertical red line) is updated according to the frequency that has been defined in the performance properties.

Overview of Performance Modules and Counters

The following performance modules can be selected in the Add Counters dialog box:

- Running
- Extended GUI Dialogs
- Networks
- Internal Processing
- Memory Management

Running

When this performance module has been selected, the following counters are available for selection:

Counter	Description
Terminal Version	Number of running Terminal Version viewers.
GUI Version	Number of running GUI Version viewers.
XML Version	Number of running XML Version viewers.
All versions	Number of running viewers (Terminal Version, GUI Version and XML Version).
Data transfers	Number of running data transfers.
Java scripts	Number of running Java scripts.

Extended GUI Dialogs

When this performance module has been selected, the following counters are available for selection:

Counter	Description
Physical BDD reads / sec	The number of times per second that the BDD file is accessed on the disk.
Logical BDD reads / sec	The number of times per second that the BDD file is accessed in memory.
Physical dialog reads / sec	The number of dialogs per second that are read from files.
Logical dialog reads / sec	The number of dialogs per second that are read from memory.
Number of memory reads / sec	The number of memory accesses per second for reading operations.
Number of file reads / sec	The number of file accesses per second for reading operations.
Time for memory read operation (msec)	The time in milliseconds used for a memory read operation. The dialog is already loaded in memory.
Time for file read operation (msec)	The time in milliseconds used for a file read operation. The dialog is read from the disk.
Number of buffer pool accesses / sec	The number of accesses to the repository per second.

Networks

When this performance module has been selected, the following counters are available for selection:

Counter	Description
Sent screen buffers /sec	The number of screen buffers per second that have been sent to the clients.
Received screen buffers / sec	The number of screen buffers per second that have been received from the clients.
KBytes sent to client / sec	The number of kilobytes per second that have been sent to the clients.
KBytes sent to host / sec	The number of kilobytes per second that have been sent to the host.
KBytes received from client / sec	The number of kilobytes per second that have been received from the clients.
KBytes received from host / sec	The number of kilobytes per second that have been received from the host.
Time for sending to client (msec)	The total time in milliseconds for sending the buffers to the clients.
Time for sending to host (msec)	The total time in milliseconds for sending the buffers to the host.
Time for receiving from client (msec)	The total time in milliseconds for sending the buffers from the clients.
Time for receiving from host (msec)	The total time in milliseconds for sending the buffers from the host.

Internal Processing

When this performance module has been selected, the following counters are available for selection:

Counter	Description
Number of client receive requests / sec	The number of client receive requests per second.
Number of host receive requests / sec	The number of host receive requests per second.
Number of client send requests / sec	The number of client send requests per second.
Number of host send requests / sec	The number of host send requests per second.
Number of I/O transfer requests /sec	The number of I/O transfer requests per second.
Number of processed requests / sec	The number of processed requests per second.
Number of new requests / sec	The number of new requests per second.
Time for processing client receive requests (msec)	The total time in milliseconds for processing client receive requests.
Time for processing host receive requests (msec)	The total time in milliseconds for processing host receive requests.
Time for processing client send requests (msec)	The total time in milliseconds for processing client send requests.
Time for processing host send requests (msec)	The total time in milliseconds for processing host send requests.
Time for processing I/O transfer requests (msec)	The total time in milliseconds for processing I/O transfer requests.

Memory Management

When this performance module has been selected, the following counters are available for selection:

Counter	Description
New allocations from pool / sec	The number of new allocations from the pool per second.
Storage blocks freed from pool / sec	The number of storage blocks freed from the pool per second.
New allocations from system heap / sec	The number of new allocations from the system heap per second.
Storage blocks freed from system heap / sec	The number of storage blocks freed from the system heap per second.
New allocated memory in Mbytes /sec	The size in megabytes of new allocated memory per second.
Freed memory in Mbytes /sec	The size in megabytes of freed memory per second.
Expanded memory blocks / sec	The number of expanded memory blocks per second.
Collapsed memory blocks / sec	The number of collapsed memory blocks per second.
Number of new *n* byte blocks / sec	The number of new byte blocks (64 through 512) per second.
Number of new *n* Kbyte blocks / sec	The number of new kilobyte blocks (1 through 64) per second.
Time for new allocations from pool (msec)	The total time in milliseconds for new allocations from the pool.
Time for storage blocks freed from pool (msec)	The total time in milliseconds for storage blocks freed from the pool.
Time for new allocations from system heap (msec)	The total time in milliseconds for new allocations from the system heap.
Time for storage blocks freed from system heap (msec)	The total time in milliseconds for storage blocks freed from the system heap.
Time for memory expands (msec)	The total time in milliseconds for memory expands.
Time for memory collapses (msec)	The total time in milliseconds for memory collapses.

Deleting a Counter

You can delete a defined counter.

To delete a counter

1. At the bottom of the pane, select the desired counter.
2. Choose the following toolbar button:

   The counter is deleted and a curve for this counter is no longer shown.

Highlighting a Curve

You can highlight the curve for the counter that is currently selected.

To highlight a curve

1. At the bottom of the pane, select the desired counter.
2. Choose the following toolbar button:

   The curve for the selected counter is highlighted.

Freezing the Graph

You can stop (freeze) and restart the automatic update of the graph.

Note:
The frequency for the automatic update is defined in the performance properties.

To freeze the graph

- Choose the following toolbar button:

  When the automatic update has been stopped, the toolbar button appears in down status.

To restart the automatic update of the graph

- Choose the above toolbar button once more.

Updating the Graph Manually

When the automatic update has been stopped (see *Freezing the Graph*), you can manually update the graph.

To update of the graph manually

- Choose the following toolbar button:

  The graph is updated each time you choose the above toolbar button.

Clearing the Graph

You can delete all curves. The counters are not deleted.

To clear the graph

- Choose the following toolbar button:

  The old curves are deleted and new curves are drawn. The vertical timebar indicates the update process.

Deleting All Counters and Curves

You can delete all counters, including all corresponding curves.

To delete all counters and curves

- Choose the following toolbar button: